

COMMUNITY HEALTH CELL

328, V. Meen, 1 Block

Bangalore-560034
India



ALL INDIA CONFERENCE OF INDIAN ASSOCIATION OF OCCUPATIONAL HEALTH

Theme
**PREVENTIVE HEALTH MAINTENANCE
OF WORKING POPULATION**

8-10 February 1985

Institution of Engineers, Bangalore.

Programme

And

Abstract of Scientific Papers



Crest of



**All India Conference of Indian
Association of Occupational Health**

8-10 February 1985

at

Bangalore.

COMMUNITY HEALTH CELL

100's Road, Bangalore - 560 001

35TH ALL INDIA CONFERENCE OF INDIAN ASSOCIATION OF OCCUPATIONAL HEALTH

Venue : Auditorium of Institution of Engineers,
Bangalore.

PROGRAMME

Thursday 3 PM : 4th Central Council Meeting, 1984.
7.2.85 8 PM : Fellowship Dinner - Century Club,
Bangalore. **Hosted by the President,**
Executive Council, Karnataka Branch.

Friday 8 AM-1 PM : REGISTRATION
8.2.85 9 AM-10.30 AM : INAUGURATION
10.30 AM-11.00 AM: COFFEE

Courtesy : **M/s. Indian Telephone
Industries Ltd., Bangalore.**

11.00 AM-12 Noon : **Sir Ardesher Dalal Memorial Oration**
Dr. Prannath, Retd. Certifying Surgeon,
Haryana.

Title : "Occupational Health Service -
Planning & Administration".

12.00-1.30 PM : Seminar on : 'Epilepsy & Industrial
Worker'

Sponsored by : **M/s. Kirloskar Electric
Co. Ltd. Bangalore and
M/s. Sundaram Clayton
Ltd., Madras.**

Chairman : **Dr. R. M. VARMA,**
Prof. Emeritus,
National Institute of Mental Health &
Neuro Science, Bangalore.

- Speakers: 1) Sri S. Subbarayan,
Chief Administration Manager,
Bharat Electronics Ltd., Bangalore.
- 2) Dr. G. Arjundas,
Neuro Physician Madras.
- 3) Dr. K. S. Mani,
Neuro Physician, Bangalore.

1.30 - 2.00 PM : LUNCH

Courtesy : M/s. Bharat Electronics Ltd.,
Bangalore.

2.00 - 3.00 PM : SCIENTIFIC SESSION - I

Chairman : Dr. DAVEY GG

Co-Chairman : Dr. GOVERDHAN MB

2 PM - 2.10 PM : "Changes in BHC residue levels and associated biochemical alterations in serum of workers engaged in a BHC Manufacturing Plant".

*Nigam SK, Karnik AB, Desai VM,
Thakore KN and Lakkadi BC.

2.10 - 2.20 PM : "Problem of Carbon Monoxide poisoning in Steel Industry".

*Jena BS.

2.20 - 2.30 PM : "Coal Workers Pneumoconiosis-Case Studies".

*Srivastav SK, Srivastav AK.

2.30 - 2.40 PM : "Dust Hazards in a Steel Industry".

*Pal PB, Raidas RB.

2.40 - 2.50 PM : "Noise Hazards in a Steel Industry".

*Raidas RB, Pal RB.

2.50 - 3.00 PM : "Prevalence of Asbestosis - Fibre Processing Unit".

*Surendra Nath.

3.00 - 3.30 PM : TEA.

3.30 - 5.00 PM : Seminar on **“Preventive Health Maintenance of Working Population - a Co-ordinated Responsibility”**.

Sponsored by : **M/s Senapathy Whiteley Ltd., Bangalore.**

Chairman : **Dr. B. B. CHATTERJEE,**
Director, NIOH, Ahmedabad.

Speakers: 1) **Sri R. S. Gopal,**
Labour Welfare Commissioner,
Ministry of Defence, Govt. of India.

2) **Dr. Ashok Sahani,**
Indian Institute of Management
Bangalore.

3) **Dr. Bhajekar AB,**
CMO, Port Trust Hospital, Bombay

8.30 PM : **BANQUET**

Venue: **Banquet Hall, Vidhana Soudha,
Dr. Ambedkar Veedhi,
Bangalore-1.**

Hosted in honour of attending delegates
by Hon'ble Chief Minister of Karnataka,
Sri Ramakrishna Hegde.

Saturday 9 00 AM : **SCIENTIFIC SESSION - II**
9 2.85

Chairman : **Dr. RAMA RAO SV**

Co-Chairman : **Dr. RADHAKRISHNA**

9.00 - 9.10 AM : **“Morbidity Patterns among Bus Drivers and Conductors”**.

***Praveen Chandra KR, Aswath PV,
Shivaram C.**

- 9.10 - 9.20 AM : "Health Problems of Workers in Heavy Engineering Industries".
*Chandrashekar BG.
- 9.20 - 9.30 AM : "Epidemiological Study of Air Pollution in Baroda City - with reference to Respiratory Morbidity and Pulmonary Function Tests".
*Durvasula RS, Shah DN, Rajagopal T.
- 9.30 - 9.40 AM : "Intestinal Parasitic Prevalence among Food Handlers".
*Pruthvish S, Vasthrad SA, Kulkarni MV.
- 9.40 - 9.50 AM : "Study of Neoplasms in Textile Workers of Sholapur".
*Mahadevi Shirshikar M, Susheela Patil.
- 9.50 - 10 AM : "Review of 200 cases of Ischaemic Heart Disease in a Steel Plant and a Coronary Health Care Programme in Industry".
*Swaminathan P.
- 10.00 - 10.10 AM : "Effects of Chromium compounds in Nasal Mucosa - Ultramicroscopic Study".
*Bhutada SS.
- 10.10 - 10.20 AM : "Limiting disabilities through Occupational Therapy".
*Yasmin N Surty.
- 10.20 - 10.30 AM : "Cardiovascular affections among Workers of Viscose Rayon Industries in India".
*Sinha YN.
- 10.30 - 11 AM : COFFEE.
- 11.00 - 12 Noon : Silver Jubilee Oration of Karnataka Branch.

Dr. C. R. Ramachandran,
Dy. Director General, ICMR., New Delhi.

12.00 - 1.30 PM : Seminar on : **"Industrial Pollution - Its Abatement"**.

Sponsored by: **Semiconductor Complex Ltd., SAS Nagar, Punjab.**

Chairman : **Prof. L. S. PRAHALADA RAO**
Secretary, Science & Technology,
Govt. of Karnataka.

Speakers : 1) **Dr. Zarabi,**
Head R & D,
Semiconductor Complex Ltd.,
SAS Nagar, Punjab.
2) **Sri R. Natarajan,**
Hindustan Dorr-Oliver Ltd., Bombay.
3) **Dr. Van Maurik,**
Philips, Netherland.

1.30 - 2.00 PM : **LUNCH.**

2.00 PM : **SCIENTIFIC SESSION - III**

Chairman : **Dr. NA SHAH**

Co-Chairman : **Dr. JAYARAJ**

2.00 - 2.10 PM : **"Visual Alertness with Flicker Fusion Apparatus - Reliable Tool as an Index of Exposure to lead"**.

***Rajmohan HR, Krishnamurthy V.**

2.10 - 2.20 PM : **"House-keeping - A Key to Accident Prevention"**.

***Sharma BL.**

2.20 - 2.30 PM : **"Study of Non-Acoustic Vibration on Workers' Health"**.

***Mahajan CN.**

2.30 - 2.40 PM : **"Importance of Assessment of Age of a Particular Group in an Industry"**.

***Basu MK.**

- 2.40 – 2.50 PM : “Habitual Physical Activities of Woman Labourers in Agriculture”.
*Anjali Nag, Sumitra C, Shenaz S.
- 2.50 – 3.00 PM : “Valuable Data from Physical Examination of 3000 new candidates in Bombay Port Trust”.
*Bhajekar A.
- 3.00 – 3.10 PM : “Hearing Conservation Programme – Its Effects”.
*Pradhan SD.
- 3.10 – 3.20 PM : “An Epidemiological Study of air pollution in Baroda City - A multivariate analysis and Development of a Statistical Model to predict Morbidity due to Air Pollution”.
*Rajagopal T.
- 3.20 – 3.30 PM : “Reorganisation of OHS in light of new challenges”.
*Mehta SK.
- 3.30 – 4.00 PM : TEA.
- 4.00 – 5.15 PM : 35th ANNUAL GENERAL BODY MEETING.
- 7.30 PM : Fellowship
- 8.00 PM : DINNER

Courtesy : AMCO Batteries Ltd ,
Bangalore.

Venue : Institution of Engineers,
Bangalore

Sunday 9.00 AM : SCIENTIFIC SESSION - IV
10.2.85

Chairman : Dr .SHIVARAM C.

Co-Chairman : Dr. AHUJA SR.

9.00 - 9.10 AM : “Personal Factors and Sickness Absence”.
*Kiriti Keshavan

- 9.10 - 9.20 AM : "Stress and Executives Health"
*Karani PN.
- 9.20 - 9.30 AM : "Role of Industrial Physician in Maintenance and Promotion of Workers" Health and Prevention of Disease".
*Chadha SL.
- 9.30 - 9.40 AM : "Role of Industrial Doctors - as viewed by themselves".
*Lakhani JD, Pathak NN, Kotecha PV.
- 9.40 - 9.50 AM : "Profile of Sickness Absentism among Canteen employees"
*Panjwani RC, Fernandes S.
- 9.50 - 10.00 AM : "Occupational Health Hazards among Grass Cutters".
*Jape MR, Thakore MM.
- 10.30 - 11.00 AM : COFFEE.
- 11.00 - 12 Noon : **C. K. Ramachander Memorial Oration.**
by : Dr. Sen Sarma, C.L.I. Bombay.
Title : "Heat Stress - a factor to reckon with".
- 12.00 Noon : VALEDICTORY ADDRESS.

by : Maj. Gen. Shyamal Ghosh,
Director Commercial & Management Services,
Bharat Electronics Ltd., Bangalore.
- 1.00 PM : LUNCH.
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Scientific Session I

Chairman : Dr. G. G. Davey

Co-Chairman : Dr. M. B. Govardhan

CHANGES IN BHC RESIDUE LEVELS AND ASSOCIATED BIOCHEMICAL ALTERATIONS IN SERUM OF WORKERS ENGAGED IN A BHC MANUFACTURING PLANT.

S. K. Nigam, A. B. Karnik, U. M. Desai, K. N. Thakore B. C. Lakkad
National Institute of Occupational Health, Meghani Nagar, Ahmedabad 380 016.

A study was undertaken on 79 workers exposed to BHC in a manufacturing plant in its different divisions. Non-handlers, handlers, maintenance and control groups showed variable concentrations of residual levels of the pesticide. Non-handlers group included supervisors and operators of BHC plant whereas handlers includes the persons doing collection and packing of BHC. The maximum concentration of total BHC and its isomers was seen in handlers. There was a significant correlation between raised X2 globulin, IgM levels in handlers and non-handlers. Further in the handlers LDH levels and also LAP showed a significantly higher values than the control. There was also an elevation in Alkaline Phosphates and GGT levels in these workers suggesting liver pathology possibly biliary cirrhosis. The significance of these results will be discussed at the time of presenting the paper.

PROBLEM OF CARBONMONOXIDE POISONING IN STEEL INDUSTRY

Dr. B. S. Jena,
B. Sc., MBBS, DIH
Senior Medical Officer,
Rourkela Steel Plant-769 011.

Donald Hunter rightly said Carbonmonoxide is likely to be produced whenever man uses fire. It originates from the incomplete combustion of carbonaceous materials. Although highly sophisticated a modern steel plant during the manufacturing of steel, several intermediate steps are met where gases and fumes are formed which have got high thermal values and hence reused as fuel in the furnaces. Cokeoven gas contains carbondioxide 2.5%.

Carbon-monoxide 6.5%, Hydrogen 48%, Marsh Gas (CH₄) 25%, Nitrogen 11.3%, Oxygen 0.5%, other Hydrocarbon 3.2% with calorific value 550 BTU. Blast furnace gas contain Hydrogen 2%, Carbonmonoxide 30%, Carbondioxide 9%, Oxygen Nil, Nitrogen 59% with calorific value 110 BTU. Though SO₂ and NH₃ are quite harmful and exposure to high concentration may cause asphyxia and death, such accidents are rare, as their irritant action on eyes and throat serves as warning to persons exposed. Carbonmonoxide is colourless and odourless gas and not easily perceived in the working atmosphere and becomes an insidious enemy. During operation and maintenance period, the workers are likely to be affected by this noxious gas. A retrospective study was undertaken in a Public Sector Steel plant located in the eastern region of India employing about 39155 employees, for the period of 5 years 1979 to 1983. Data were collected from the Plant Medical Unit, Main Hospital, and the accident register of the Safety Eng Dept. During the period of study, a total number of 294 such cases reported which includes regular employees as well as contractors labour. Data collected were subjected to a critical analysis so as to establish the possible relationship of CO poisoning accidents with various variables which includes time (year, month, shift), place of occurrence (Department), Personal factors (age, nature of job). Attempts was also made to corelate with total accidents, fatality and mandays lost and comparasion was made with the statistics of other steel plant. Majority of these employees were maintenance staff and they were mostly unskilled and skilled workers. Blast furnace, Cokeoven, Sintering Plant, Refractories were the places where majority of the gassing incidence took place. In toto, an attempt has been made to highlight the seriousness of Carbonmonoxide poisoning in Steel Industry.

COAL WORKERS PNEUMOCONIOSIS : A CASE STUDY

SRIVASTAV S.K., AND SRIVASTAV A. K.

BARKUI HOSPITAL

A B S T R A C T

272 cases of coal workers Pneumoconiosis (CWP) from workers who had been working underground for more than 10 years were selected for compensation during routine Periodic Medical Examination (P.M.E.) in Nagpur Division of Western Coalfields Limited, in which approx. 6000 workers were examined.

14 (5. % 1) of these suffered from Progressive Massive Fibrosis (P.M.F.), while the rest had simple C.W.P. Statistically significant differences were observed in percentages of cases in relation to occupation/number of

years worked and radiographic category of disease. Such differences with relation to type of opacity could not be statistically proved.

These cases were also analysed for seeking pointers for further study regarding role of individual susceptibility in production and course of disease. Nutritional status and Blood groups in A. B. O. system were considered for this.

Presence or absence of clinical signs and symptoms were taken as a indicator of disability. It was interesting to note that nearly half of the cases did not have any disability. This was true even in higher radiological categories and cases with P. M. F.

DUST HAZARDS IN A STEEL INDUSTRY

*** Pal P. B.**

**** Raidas Dr. R. B.**

Prevalance of silicious dust in the working environment is a common Health Hazard in steel foundries. An old steel foundry employing about 1300 workers was selected to find out the intensity and severity of dust exposure. A detailed Industrial Hygiene-cum-Medical investigation including area-monitoring, personal monitoring, general medical examination and lung function tests were carried out.

A total of 190 workmen (Including 151 exposed and 39 control) were covered under this study.

Area monitoring revealed dust concentration higher than TLV in Foundry Fettling and FAI (Finishing, Assembly & Inspection) departments. Maximum concentration was found in the foundry shop.

Personal monitoring showed that all the workmen of the three departments were exposed to TWA dust concentrations higher than that of TLV's as recommended by A.C.G.I.H. The workmen of sand mills were found to be exposed to highest dust concentration.

The symptoms and chest signs relevant to dust exposure were found to be higher in the exposed than control.

The mean vital capacity in the exposed group of person was also found low.

A definite relationship between dust exposure and its effects on the Health of the exposed person was established in this study and it was found that as the dust exposure increases from FAI to Fettling to Foundry departments correspondingly the chest signs & symptoms were also found to have an increasing trend and the Mean Vital capacity were also correspondingly reduced.

It is concluded that the TLV for dust as recommended by A. C. G. I. H. can also be made use of under Indian Conditions to reduce the incidence of Health Hazards. The finding of the study also reveals that the Dust Control System in this unit was inefficient as far as the dust hazards is concerned.

* Dy. Director (IH)

** Dy. Director (Medical)

Regional Labour Institute, Lake Town, Calcutta-700 089.

NOISE HAZARDS IN A STEEL FOUNDRY

*Dr. R. B. RAIDAS

**Mr. R. B. PAL

Noise Induced Hearing loss is an established Occupational Hazard. Nonauditory effects of Noise are also reported from time to time. Noise Induced Hearing loss has become an Industrially notifiable disease since 1977 in the Indian Factories Act.

In a steel Foundry there are various operations which make the work environment Noisy and it is quite likely that a good number of working community exposed to Excessive Noise for years together may be suffering from variety of disorders.

In view of the above a Pilot study was carried out in an old Foundry employing about 1300 workmen. A total of 190 workmen (Including 151 exposed & 39 control) were covered under this study. An Environmental Noise levels at various operational area of the Foundry, Fettling, & FAI (Finishing Assembly & Inspection), Departments were measured.

The results of clinical and Audiometric findings in the control and Exposed group and the prevailing environmental Noise levels are presented in this report. A distinct relationship between the prevailing environmental Noise levels and its ill effects including the occurrence of subjective symptoms, Hearing Threshold shift both at 4000HZ and speech zone frequencies established in this study is presented.

Noise Levels were found to be much above its recommended Threshold Limit value in all the operational Area of FAI Section and at three operational areas of Fettling Section whereas in the Foundry Section higher Noise Levels were recorded at one operation only.

The occurrence of subjective symptoms, Hearing Impairment both at 4000HZ and speech zone frequencies in the exposed workers of FAI Section was maximum and seen in all categories of workers. Whereas these were Least in Foundry workers and Fettling workers occupied intermediate position.

13.8% ($5\frac{1}{2}$ times than control) of the exposed and 2.5% of the Non Exposed group were found to be effected to an extent of causing disability as far as the speech zone is concerned. There was also found some association between exposure period over 10 years and Hearing Impairment.

*Dy. Director (Medical) Regional Labour Institute, Calcutta.

**Dy. Director (IHL) Regional Labour Institute, Calcutta.

PREVALENCE OF ASBESTOSIS FIBRE PROCESSING UNIT

By

Dr. SURENDRA NATH,
Dy. Director (Medical),
Central Labour Institute Bombay.

Scientific Session II

Chairman : Dr. S. V. Rama Rao.

Co-Chairman : Dr. Radhakrishna.

MORBIDITY PATTERNS AMONG BUS DRIVERS AND CONDUCTORS

*PRAVEEN CHANDRA K. R. **ASWATH P. V. ***SHIVARAM C.

This cross-sectional study conducted among the Drivers and Conductors of Karnataka Road Transport Corporation brings to the light the importance of multi-phasic screening programmes.

The overall number of episodes of sickness per head per annum was found to be 0.67 which is higher than that observed among workers of Heavy Engineering Industries. Certain morbidities observed among Drivers contrasted with different types of morbidities among Conductors. A high prevalence of Glycosuria (20.9%) was noted among drivers.

The investigators have further studied the subjective attitude towards the existence of excessive heat, dust, improper design of seat and gears and old and hard to manage the buses. Morbidities though not related to age were found to affect task performance and road accidents. It was found that most of those who had complaints had only a mild degree of maladjustment.

The authors propose further research to determine the contribution of occupations in causation of morbidity.

*Medical Officer, VISL Hospital, Bhadravati

**Assistant Professor in Preventive and Social Medicine, BMC, Bangalore

***Professor and Head, Preventive and Social Medicine, BMC, Bangalore

HEALTH PROBLEMS OF WORKERS IN HEAVY ENGINEERING INDUSTRIES

*CHANDRASHEKHAR B. G.

A cross-sectional study undertaken at Mysore Kirloskar Ltd, Hunti. Out of the 1421 workers on Roll, 1327 (93.4%) were subjected for study. About 64.2% of workers had one or the other morbid conditions at the time of

the survey. Highest incidence of morbidity was noticed in high risk group i.e. 74.04 per 100 persons. Pulmonary Tuberculosis was an important chronic infectious disease affecting 9 (prevalence rate 0.68) and it was more frequent in high risk group; Total intestinal parasitic prevalence was 35.38 percent; prevalence of anaemia was 2.16 percent and diabetes mellitus was 2.3 percent, industrial psychosis was noticed in 10(0.75 per cent) workers and it was more frequent in high risk group. All the diseases of the Respiratory System was higher (33.38%) in high risk group and lowest in moderate risk group (24.1%).

Prevalence of morbidity and prevalence of spells of sickness was found to be more in workers exposed to all the three shifts in comparison with those exposed to only one shift; prevalence of illness showed an increasing trend with increasing age, prevalence of illness did not show any relation with duration of services.

Injuries were noticed in 123 (9.27%) and majority i.e. (91.0%) was noticed among workers in high risk group.

*Lecturer in Preventive and Social Medicine,
Bangalore Medical College, Bangalore-560 002.

ABSTRACT

"AN EPIDEMIOLOGICAL STUDY OF AIR POLLUTION IN BARODA CITY WITH REFERENCE TO RESPIRATORY MORBIDITY AND PULMONARY FUNCTION TESTS".

Dr R. S. Durvasula, Dr. D. N. Shah & Dr. T. Rajgopal, Baroda.

A longitudinal study (Epidemiological) of health effects of Air Pollution in 3 randomly selected pollution monitoring stations of NIOH was done in Baroda city.

Clinical assessment of Respiratory morbidity and pulmonary function testing was done. The entire population falling within $\frac{1}{2}$ Km of monitoring station was taken up for study and 3 visits in Summer, Monsoon and Winter were made.

Pulmonary function testing was done by electronic spirometer. Demographic, housing and socio-economic parameters were taken into consideration.

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It was found that pollution levels in the too high pollution areas of Lalbaug and Gorva areas increased four fold in winter as compared to summer. This was not seen in Fatehgunj area.

A significant increase in incidence of Respiratory symptoms was seen in older residents of high pollution areas. The seasonal morbidity pattern showed significantly increased respiratory morbidity in winter which was in the too high pollution areas and not in low pollution area of Fatehgunj. This result is consistent with pollution levels.

Pulmonary function testing showed an obstructive type pattern in winter in high pollution areas especially in female residents.

Various technical and management policies for the abatement of air pollution have been outlined.

INTESTINAL PARASITISM AMONG FOOD HANDLERS

***PRUTHVISH S. **VASTHRAD S. A. ***KULKARNI M. V.**

Food Handlers constitute a sizable occupational group. Their health status is important both from the point of view of food handlers and general public they serve.

The study was conducted on 915 (88.83) stool samples among 1030 approached for study.

The overall parasitic prevalence was 54.86 percent and it was higher among dish washers i. e. 72.64 percent. There was no statistically significant association between parasitic prevalence and age. Parasitic prevalence of workers of eating establishments with sanitation unsatisfactory (59.55 percent) was higher than that of workers of eating establishments with satisfactory sanitation. There was no statistically significant association between parasitic prevalence and material used for hand washing.

It was concluded that intestinal parasitism is an occupational hazard of food handlers as most of them take the same food they serve and living conditions prove their impact on intestinal parasitic prevalence. It was found that the use of soap shall be done correctly and by thorough scrubbing and keeping the nails trimmed. In the absence of the above the use of soap becomes a farce rather than an effective practice.

*Tutor in Community Medicine, St. John's Medical College, Bangalore.

**Lecturer in Community Medicine, KMC, Hubli.

***Professor and Head, Community Medicine, KMC, Hubli.

STUDY OF NEOPLASMS IN TEXTILE WORKERS AT SHOLAPUR

by : Dr (Mrs) M. M. Shirshikar, Dr. Susheela Patil, A M O, ESI Scheme,
Western Zone of Maharashtra

2041 workers from different Textile Mills were subjected for "EARLY CANCER DETECTION". Age, Sex & site-wise distribution were studied, so also LEUKOPLAKIA, VAGINAL CYTOLOGY & 3 CASES of Cancer was detected.

NEOPLASMS were detected in 6.6% of cases. 8 persons had Cancer in early stage-0.78%. Cancer was more frequent in female than male workers. Habits and Leukoplakia were very high. Lipoma was commonest, so also Sebaceous cysts. Oropharyngeal and respiratory cancer in male and cervical in female were the common cancer in Textile workers.

SYNOPSIS

A review of 200 cases of Ischaemic Heart Disease in a Steel Plant with suggestions for a Coronary Health Care Programme in Industry.

By Dr. P. Swaminathan
M.B.,B.S., D.I.H.,
Sr. Industrial Med. Officer,
Bhilai Steel Plant.

Of all the non-occupational diseases affecting the industrial workers, Ischaemic Heart Disease (I.H.D.) emerges as a major killer disease. About 200 cases of IHD from an integrated Steel Plant have been analysed with particular reference to the incidence of the various risk factors associated with coronary heart disease. A preventive coronary health care programme for industry has been outlined, and the role of the Industrial Medical Officer in the above programme has been discussed.

"EFFECTS OF CHROMIUM COMPOUNDS IN NASAL MUCOSA"
AN ULTRAMICROSCOPIC STUDY

BY : DR S. S. BHUTADA,

MS (Gen. Surg.), MS (ENT), DORL,
FICS, MPC (Italy)

'Industrial Diseases Detection Centre' of Institute of Research in O. R. L.,
'Ayodhya' Charitable Trust, Pune.

ABSTRACT

1979 workers who were employed in a Chemical Complex Plant at Industrial Estate, Pune Region-India, were investigated at least 12 times in a year since 1967. Clinical Examination Histopathology and Ultra microscopy was the pattern of investigation. The study showed irreversible changes (seen on repeated examination) in the nasal and upper respiratory tract-Mucosa such as Squamouscell Metaplasia, Dysplasia with marked nuclear changes. The Ultramicroscopic features of Nucleus and Cytoplasmic changes are suggestive of precancerous changes.

Attempts in this paper will show the relation of concentration of Chromium Compound Dust at work place with Clinico pathological changes in Nasal Mucosa.

This work is based on original Research work conducted in the Centre of our Institute.

LIMITING DISABILITIES THROUGH OCCUPATIONAL THERAPY

By : Mrs. YASMIN N SURTY,
Sr. Occupational Therapist,
Bombay Port Trust Hospital, BOMBAY.

OCCUPATIONAL THERAPY has an important place in the treatment of disabilities in a modern industrial set up. This paper deals with the modalities used by the therapist to limit or prevent disabilities. The point has been brought forth by a few case illustrations.

CARDIOVASCULAR AFFECTIONS among
workers of VISCOSE RAYON INDUSTRIES IN INDIA.

by : DR. Y. N. SINHA

Central Labour Institute Bombay

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Scientific Session I I I

Chairman **Dr. N. A. Shah**

Co-Chairman **Dr. Jayaraj**

Visual Alertness with Flicker Fusion Apparatus Reliable Tool as on Index Exposure to Lead in Groups of Workers with Varying Degrees Of Lead Absorption.

*Dr. H. R. Rajmohan **Mr. V. Krishnamurthy

*Research Officer (Medical)

**Asst. Reserach Officer (Hygiene)

Regional Occupational Health Centre (S) Bangalore.

ABSTRACT :

Lead has no known natural function in the blood, but is so pervasive in the environment that some absorption appear inevitable. The incidence and severity of Lead Poisoning have decreased substantially during recent years, but much still remains to be done to eliminate lead poisoning as an occupational disease. The authors have tested 171 subjects with flicker fusion apparatus for the subjective symptoms of visual alertness and found that in light of the available authentic diagnostic investigatory methods as it is difficult to detect or to make out the sub-clinical lead poisoning the visual alertness can be used as a reliable index.

Abstract

" House keeping-a key to accident prevention"

By B. L. Sharma,

Safety Officer, Tisco Adityapur Complex.

Without good house keeping and systematic maintenance of buildings and equipment, even the best designed plant can develop an alarming list of accident and health hazards.

Without attention to house keeping, employees will trip over loose objects on floors and stair. They will slip on oily and wet floors and be hit by falling objects. They will tear their hands and puncture their feet on projecting nails, fire hazards will develop.

Good house keeping is indicated by Floors free from grease and oil slick, clearly marked aisles, adequate lighting, no excessive material or waste in the work area, and neat and orderly equipment and machinery. Such conditions are evidence of good management, with them a low accident rate may be expected.

House keeping requires organisation and its supervision regularly.

SUMMARY

"A STUDY OF NON ACOUSTIC VIBRATION OF WORKER'S HEALTH"

***Mahajan Chandrakanth Namdev**

***Senior Medical Officer, Hindustan Aeronautics Limited, Nasik**

It is a known fact that Acoustic Vibration gives rise to auditory and other health problems. Non Acoustic Vibration also affects the health of workers. In order to find out different hazards of Non Acoustic Vibration 470 workers who are fitters doing drilling and revitting work regularly were taken for the study. Out of 470 workers 374 workers were found to have some problems, like calocity of palm, thickening of palm skin, redness of palm etc., Their blood pressure shows 145 workers B. P. above 130/84, 31 workers above 150/90. Their age ranging was 31 to 40 years. Duration of service varies from 11 to 20 years. Their habits were studied

Measurement of Vibration was done by Oscilloscope by B & K Company

The above findings were co-related and discussed.

IMPORTANCE OF AGE OF A PARTICULAR GROUP IN AN INDUSTRY

***BASU M. K.**

Principle Medical Officer,
CESC (I) Ltd., Calcutta.

Objective determination of age is an important component of pre-employment medical examination. This study has been conducted comparing a control of known age group to find out the specific data with the unknown age group. The investigators on the stigmas left behind in the body itself, as a process of aging. The criteria adopted include findings of general examination, examination of teeth and radiological examination of root of the teeth, skull, mandible etc. The investigator has enlisted criteria to be adopted for different age groups and concludes that these pioneering attempts should be supplemented by routine recordings of their findings by the industrial medical officers and later exchanging with others so that a standard systematic procedure and data for determination of age could be established.

THE HABITUAL PHYSICAL ACTIVITIES OF WOMEN LABOUR EMPLOYED IN AGRICULTURE

By *Anjali Nag, Sumitra Chintharia and Shehnaz Saiyed
National Institute of Occupational Health, Ahmedabad 380 016.

ABSTRACT

The daily activity pattern, energy intake and expenditure of agricultural women were assessed during farming and non-farming season. The study included eighteen female farmers from interior of north Gujarat.

The whole day habitual activities were shared between the household duties (fetching and bringing water, gathering firewood, cooking, washing utensils, sweeping floor, tendering children etc) and the work-day activities (digging earth, sowing, weeding, harvesting etc.) The household work required nearly 4.5 hrs in farming season and 6.7 hrs in non-farming season. The energy expenditures for household work in farming and non-farming seasons demanded about 500 and 680 Kcal respectively.

The work-day spreaded over 8.5 hrs in farming season. The energy expenditure during that period was about 1150 Kcal, which was 49% of the whole day energy expenditure. About 7.2 hrs workday of non-farming season involved light sitting jobs such as processing raw cotton, etc.

SYNOPSIS

Title : "VALUABLE DATA from physical examination of 3000 new candidates in Bombay Port Trust".

DR. ASHOK BHAJEKAR
Chief Medical Officer,
Port Trust Hospital, Bombay.

Data of height, weight, pulse rate, blood pressure and visual acuity of 3000 new candidates employed in the calendar year 1982 is presented. Comparison is made with L. I. C. standards. Groundson which employees were considered unsuitable on physical examination are innumerable. Suggestions are offered.

HEARING CONSERVATION PROGRAMME ITS EFFECTS

***Dr. PRADHAN S. D.**

Medical Advisor

Hindustan Petroleum Corporation, Bombay.

In this study 236 employees were checked up audiometrically from various noisy areas of Hindustan Petroleum Corporation. Among them, 33.79% were found to be having sensory-neural loss of mild to moderate intensity. Provision of acoustic absorbers, silencers for inlet ducts and acoustical insulations were made during 1974-76. Subsequent follow up audiometry revealed to their surprise considerable improvement in hearing of a few employees varying between 10 and 30 decibels at 4000H2.

After withdrawal of the traumatic stimulus the hearing was found to have improved over a period of 10 years, indicating that improvement could be expected in the hearing loss.

ABSTRACT

"An epidemiological study of Air pollution in Baroda city A multivariate analyses and development of a statistical Model to predict morbidity due to air pollution"

By : Dr. T. Rajgopal, Dr. R. S. Durvasula, Dr. D. N. Shah, Baroda

A Longitudinal epidemiological study of health effects of Air Pollution in 3 randomly selected pollution monitoring stations of NIOH was done in Baroda city. Assessment of Respiratory morbidities was done in 3 seasons viz. Summer, Winter and Monsoon in these 3 areas.

Pollutant levels of SO₂, NO₂, SPM, and sulfation rate were co-related with respiratory morbidities in these areas. It was found that significant partial co-relation exists between respiratory Morbidity and mean seasonal sulfur dioxide (SO₂) levels only. The partial co-relation between Respiratory morbidity and SO₂ after statistically keeping other variables independent was found to be 0.89. No. significant partial co-relation could be observed between respiratory morbidity and levels of SPM, NO₂, Sulfation rate.

The effect of SO₂ is seen as the single most important variable affecting Respiratory morbidity and is expressed as the Linear Equation.

$X_1 = 3.236 + 0.458 X_2$ where X_1 is the respiratory Morbidity and X_2 is SO₂ Level.

Multiple regression equations quantifying the effects of different variables have been developed.

SYNOPSIS

Reorganisation of OHS in light of new challenges

DR. S.K. MEHTA
Medical Superintendent
(Industrial Health)
I P C L Baroda

By now, importance of Occupational Health Services have, more or less, been accepted by the major industrial establishments, though the shade in which it is practiced varies from industry to industry.

Preplacement and periodical medical examinations, Emergency treatment, Training of employees of all levels and also of medical & paramedical staff and Health education have taken firm roots.

But, the chemical industry is organised as a 'complex' of number of plants, involving thousands of employees. Multitude of chemicals, many of them hazardous, some of them proved or potential carcinogens, again pose questions of long term exposure, continuous surveillance and health records. Work environment exposure levels of dangerous chemical are maintained in the plant, being integral part of the plant activity. These have to be systematically catalogued and data compared with the results of medical examinations. This will require close collaboration with process departments. Use of computer for these activities will have to be thought of.

Again, all available data about toxicity short term acute emergencies, and more often, the long term effects of permanent nature has to be compiled and made available by efficient data retrieval system.

In IPCL we have organized our Occupational Health Services system in light of the these challenges and the efforts are discussed in the paper.

Scientific Session IV

Chairman : Dr. C. Sivaram.
Co-Chairman : Dr. S. R. Ahuja.

PERSONAL FACTORS AND SICKNESS ABSENCE

*Kiriti Keshavan, **Chatterjee B. B.

This study revealed that younger workers were found to be more frequently absent. A declining trend of sickness absence spells was observed as age advanced workers less than 15 years of service were absent about twice as frequently as workers with 16 or more years of service. An inverse relationship was observed between Educational level and Sickness absence spells. Sectionwise weaving which was the largest had the lower percapita spells of sickness of 1.36 in the year. Days of absence per spell of sickness was higher in the weaving as well as in sack sewing departments.

*Asst Prof Of Community Medicine, St. John's Medical College, Bangalore
**Director, National Institute of Occupational Health, Ahmedabad.

STRESS AND EXECUTIVE HEALTH

*Philly Noshir Karani

This paper deals with modern day stress and how it effects the executive health. It firstly explains why an executive's health is so important to industry and the nation and in what respect his health problems are stress related and they differ from the health problems of the general population.

Stress is then defined and its effects enumerated. The response of the body and the three stages of the general adaptation syndrome are explained. Stress producing emotional, behavioural and psychological changes are enumerated.

Lastly, various methods are enumerated to help one cope with stress.

*General Surgeon, Pune

THE ROLE OF INDUSTRIAL PHYSICIAN IN MAINTENANCE AND PROMOTION OF WORKERS HEALTH AND PREVENTION OF DISEASE

*Brig. Chadha S. L.

The paper highlights that a properly trained and conscientious industrial physician can make a major contribution to optional health, efficiency and welfare of workers and this lead to increased productivity in the Industry. The industrial physician needs to be a good clinician basically and should have a diploma in Industrial Health. The paper makes us to have an insight into the role of industrial physician in all the facts of occupational health namely Routine Medical Examination, proper diagnosis of occupational disease, curative services, study of working environments job analysis, prevention of accidents, implementation of National Health Programmes etc. Further, it is delineated that the field of Ergonomics, Human relations, Maintenance of Health Statistics, Health Education and Social Security and Rehabilitation of workers are the domain of the Industrial Physician.

*Consultant in Community Health, New Delhi.

ROLE OF INDUSTRIAL DOCTORS-AS VIEWED BY THEM

*Lakhani J. D., **Pathak N. S., ***Kotocha P. V.

A trans-sectional study undertaken on 25 doctors to study their role in the Industry. Personal interview conducted by using 25 questions. Among the doctors, 13 percent were full-time employees and 12 percent were part time employees. It was found that most of them were giving mainly clinical and curative services. Advisory role to safety (16%), welfare (12%) and health planning was done by very few.

Lack of authority (75%), lack of co-operation from management (32%) interference from Workers Unions (28%) were difficulties faced by Doctors; 15 Doctors felt that workers were interested only in clinical care and had unjustified demands pertaining to leave, drugs, compensation and food. Doctors opined that Accidents were more common because of human errors than technical errors; Doctors felt that safety measures though

adequate legally are not optimum and ESI scheme is not helping much as more often misused than used.

*Asst. Professor of Medicine, Medical College, Baroda.

**Professor and Head of the Dept. of Psychology, M. S. University, Baroda.

***Associate Professor of Community Medicine, Medical College, Baroda.

PROFILE OF SICKNESS ABSENTISM AMONG CANTEEN EMPLOYEES

*Panjawani R. C.,

**Mrs. Fernandes S.

The problem of sickness absentism among 25 canteen employees with more than 30 days LOP during the three years period (1981-83) has been compared with 25 workmen on the shop floor as a control group. Much of the sickness absentism has at its base job dis-satisfaction, job frustration, the imbalance between the expectations of the employee and the employers and the social and familial responsibilities of the employees working condition in the canteens considered to be service oriented and even degrading whereas even house keeping, cleaning and maintenance work on the shop floor is considered higher type of job.

*Chief Medical Officer.

**Social Counsellor, Medical and Health Services,

Larsen & Toubro Ltd., Powai Works, Bombay-400 072.

OCCUPATIONAL HEALTH HAZARDS IN GRASS WORKERS

*Jape M. R. **Thakore M. M.

Grass cutting i.e. bailing is a major seasonal occupation in Palghar block. The study population was constituted by 563 grass workers. Among them 490 (87.00) were actual workers, 28 (5.00) were care takers of children and 28 (5.00) were group leaders; Literacy status was 490 (87.00); Age group varied from 10 years to 60 years.

Occupational hazards included injuries due to sickle and sharp grass stumps in sole and hand observed in 324(58.00); corns and callosities observed in 15 to 22 percent of workers; itching and allergic rash was found in 281 (50.00) and 68 (12.00) of workers respectively; hyperpigmentation of skin was exhibited by 259 (46.00) of workers; conjunctival congestion, itching and foreign body sensation in Eyes was observed in 315(56.00), 73(13.00) and 68(12.00) of workers; other hazards included allergic rhinitis, postural backache, burning micturition and calf tenderness.

Majority of workers worked 10 to 12 hours a day and majority of them did not know how much they are going to earn. A communication link between workers and owners was found.

*Associate Professor in Preventive and Social Medicine.

**Medico Social Worker, Health Unit, Palghar.



FORTHCOMING NATIONAL/INTERNATIONAL EVENTS

| Date | TOPIC | CONTACT ADDRESS |
|----------------------------|---|--|
| 20-23 June 1985 | ENVIRONMENTAL HEALTH DISORDERS -PREVENTION, EARLY DETECTION AND MANAGEMENT | Dr. J. C. KOTHARI Programme Co-ordinator Taj Continuing Education Programmes, Taj Mahal Hotel, Apollo Bunder, Bombay-400 039. India |
| 16-19 April 1985 | INTERNATIONAL SYMPOSIUM ON 'OCCUPATIONAL EXPOSURE LIMITS' (WHO Europe Head Quarters, Copenhagen) | International Symposium on Occupational Health Limits, ACGIH' INC. 650C Glenway Ave, Building D-5, Cincinnati, CH 45211 USA |
| 2-7 June 1985 | INTERNATIONAL CONFERENCE ON THE HEALTH OF MINERS. | Ms. John HOUSTON, Executive Secretary, International Conference on the health of miners, University of Pittsburgh, Graduate School of Pittsburgh 130, Nesoto Street, Pittsburgh, PA 42561-USA |
| 2-6 September 1985 | SIXTH INTERNATIONAL SYMPOSIUM ON "INHALED PARTICLES". | Dr. N. P. Crawford, Institute of Occupational Health, 8, Roxburgh Place, Edinburgh, EH-8, ISV, Scotland, United Kingdom. |
| 10-12 September 1985 | FOURTH INTERNATIONAL SYMPOSIUM Epidemiology in Occupational Health. | Dr. P. A. Bertazzi, Secretary, IV International Symposium, Epidemiology in Occupational health 8, Via S. Barnaba, 1-20122 Milano, Italy. |
| 24-29 May 1987 | XI WORLD CONGRESS ON THE PREVENTION OF OCCUPATIONAL ACCIDENTS AND DISEASES. | Swedish Organising Committee, P. O. Box 22236 S-10422 Stockholm, Sweden. |